Système (Solide)

Bilan des forces :

$\overrightarrow{T}$: **Tension du ressort**

$\overrightarrow{P}$: **Poids du solide**

$\overrightarrow{R}$: **Réaction du plan**

$\overrightarrow{f}$: **Force de frottement**

$$T = -k(x - x_A) = -kx + kx_A$$

$$T' = T + F$$

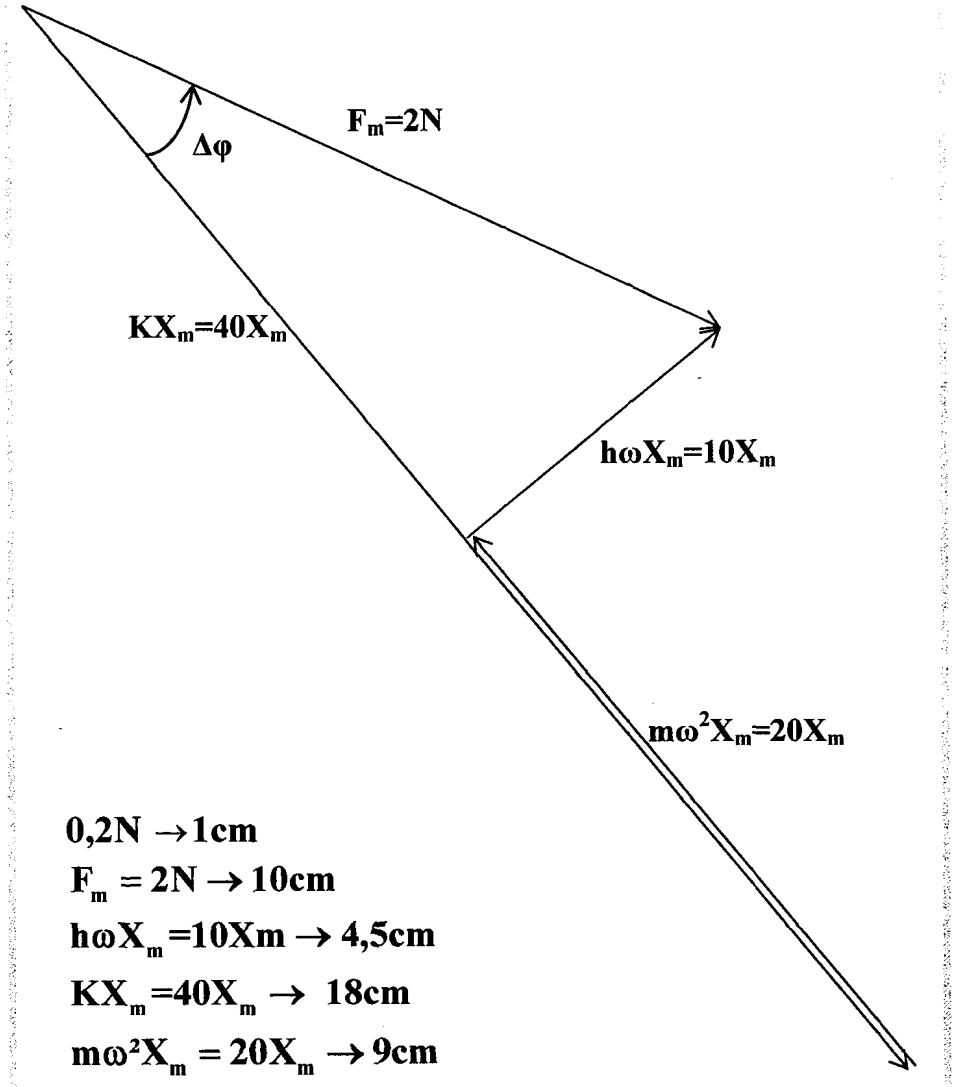
$$\text{RFD : } \overrightarrow{P} + \overrightarrow{R} + \overrightarrow{T'} + \overrightarrow{f} = m.\overrightarrow{a}$$

$$\text{Proj : } T' + f = ma \Rightarrow T + F + f = ma$$

$$\Rightarrow m\frac{d^2x}{dt^2} + h\frac{dx}{dt} + kx = F$$

2°)

a-$\omega = 10 rad.s^{-1}$



0,2N → 1cm

F_m = 2N → 10cm

hωX_m=10Xm → 4,5cm

KX_m=40X_m → 18cm

mω²X_m = 20X_m → 9cm